

**UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF TEXAS
WACO DIVISION**

WSOU INVESTMENTS, LLC D/B/A
BRAZOS LICENSING AND DEVELOPMENT,

Plaintiff,

v.

HEWLETT PACKARD ENTERPRISE COMPANY,

Defendant.

Nos. 6:20-cv-00729-ADA
6:20-cv-00730-ADA
6:20-cv-00783-ADA

JURY TRIAL DEMANDED

**BRAZOS'S OPENING CLAIM CONSTRUCTION BRIEF REGARDING
U.S. PATENT NOS. 7,646,729; 8,462,774; AND 9,398,629**

TABLE OF CONTENTS

I.	Introduction.....	1
II.	U.S. Patent No. 7,646,729 (Case No. 6:20-cv-00729-ADA).....	1
A.	“a sniffer” (claims 1, 13).....	2
B.	“link status messages” (claims 1, 13) / “link state messages” (claims 7, 19).....	6
C.	“inner nodal area” (claims 1, 13)	7
D.	“outer nodal area[s]” (claims 1, 13).....	9
E.	“configuring the sniffer as a partition designated inner nodal-area node of the [first / second / remaining] outer nodal area” (claims 1, 13)	10
III.	U.S. Patent No. 8,462,774 (Case No. 6:20-cv-00730-ADA).....	12
A.	“assigning the MC-LAG to a multi-chassis link aggregate group virtual local area network (MC-LAG VLAN)” (claim 12)	13
IV.	U.S. Patent No. 9,398,629 (Case No. 6:20-cv-00783-ADA).....	14
A.	Agreed Constructions of “register request” and “register acknowledgment” (claims 1, 8)	15
B.	“seed WLAN controller” (claims 1, 8)	15
C.	“a processing module operable to: determine an address of at least one seed WLAN controller in the mobility domain; register with the at least one seed WLAN controller in the mobility domain by: transmitting a register request including a layer 3 address of the WLAN controller to the at least one seed WLAN controller with a mobility domain identifier of the mobility domain; and receiving a register acknowledgement from the at least one seed WLAN controller when the mobility domain identifier matches a mobility domain identifier of the at least one seed WLAN controller; and receive information for other WLAN controllers in the mobility domain from the at least one seed WLAN controller” (claim 1).....	17
D.	“register[ing]” (claims 1, 8)	20
E.	“receive information for other WLAN controllers in the mobility domain” / “receiving information for other WLAN controllers in the mobility domain” (claims 1, 8)	21

TABLE OF AUTHORITIES**Cases**

<i>ActiveVideo Networks, Inc. v. Verizon Commc'ns, Inc.</i> , 694 F.3d 1312 (Fed. Cir. 2012).....	13
<i>Ancora Techs., Inc. v. Apple, Inc.</i> , 744 F.3d 732 (Fed. Cir. 2014).....	13
<i>CellNet Data Sys., Inc. v. Itron, Inc.</i> , 17 F. Supp. 2d 1100 (N.D. Cal. 1998)	18
<i>Cellular Commc'ns Equip. LLC v. AT&T, Inc.</i> , No. 2:15-cv-576-RWS-RSP, 2016 WL 7364266 (E.D. Tex. Dec. 19, 2016).....	19
<i>Clear Imaging Res., LLC v. Samsung Elecs. Co.</i> , No. 2:19-cv-00326-JRG, 2020 WL 6384731 (E.D. Tex. Oct. 30, 2020)	19
<i>CloudofChange, LLC v. NCR Corp.</i> , No. 6:19-cv-00513-ADA, 2020 WL 4004810 (W.D. Tex. July 15, 2020).....	5
<i>Comark Comm'ns, Inc. v. Harris Corp.</i> , 156 F.3d 1182 (Fed. Cir. 1998).....	4, 12, 22
<i>Diebold Nixdorf, Inc. v. Int'l Trade Comm'n</i> , 899 F.3d 1291 (Fed. Cir. 2018).....	18
<i>Eko Brands, LLC v. Adrian Rivera Maynez Enters., Inc.</i> , 946 F.3d 1367 (Fed. Cir. 2020).....	4
<i>Finjan, Inc. v. Secure Computing Corp.</i> , 626 F.3d 1197 (Fed. Cir. 2010).....	13
<i>Info-Hold, Inc. v. Applied Media Techs. Corp.</i> , 783 F.3d 1262 (Fed. Cir. 2015).....	13
<i>K-2 Corp. v. Salomon S.A.</i> , 191 F.3d 1356 (Fed. Cir. 1999).....	13
<i>Karlin Tech., Inc. v. Surgical Dynamics, Inc.</i> , 177 F.3d 968 (Fed. Cir. 1999).....	4
<i>LG Elecs., Inc. v. Bizcom Elecs., Inc.</i> , 453 F.3d 1364 (Fed. Cir. 2006).....	19
<i>Nautilus, Inc. v. Biosig Instruments, Inc.</i> , 572 U.S. 898 (2014).....	6
<i>Philips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005) (<i>en banc</i>)	9, 11
<i>Pisony v. Commando Constr., Inc.</i> , No. 6:17-cv-00055-ADA, 2019 WL 928406 (W.D. Tex. Jan. 23, 2019).....	13
<i>Power Mosfet Techs., L.L.C. v. Siemens AG</i> , 378 F.3d 1396 (Fed. Cir. 2004).....	20

<i>Realtime Data, LLC v. Rackspace US, Inc.</i> , No. 6:16-cv-00961-RWS-JDL, 2017 WL 2590195 (E.D. Tex. June 14, 2017)	19
<i>Samsung Elecs. Am., Inc. v. Prisua Eng'g Corp.</i> , 948 F.3d 1342 (Fed. Cir. 2020).....	18, 19
<i>Skky, Inc. v. MindGeek, s.a.r.l.</i> , 859 F.3d 1014 (Fed. Cir. 2017).....	18
<i>Sonix Tech. Co. v. Publ'ns Int'l, Ltd.</i> , 844 F.3d 1370 (Fed. Cir. 2017).....	6
<i>Tek Global v. Sealant Sys. Int'l, Inc.</i> , 920 F.3d 777 (Fed. Cir. 2019).....	18
<i>Thorner v. Sony Computer Entm't Am. LLC</i> , 669 F.3d 1362 (Fed. Cir. 2012).....	5
<i>Williamson v. Citrix Online, LLC</i> , 792 F.3d 1339 (Fed. Cir. 2015).....	18
Statutes	
35 U.S.C. § 112.....	17, 18

TABLE OF EXHIBITS

Ex. Description

- | | |
|---|---|
| 1 | excerpts from file history for U.S. Patent No. 7,646,729 (U.S. Pat. App. No. 10/870,217) |
| 2 | <i>Sniffing (network wiretap, sniffer) FAQ</i> , www. robertgraham.com/pubs/sniffing-faq.html
(Version 0.3.3, Sept. 14, 2000), available at https://web.archive.org/web/20001109025400/www.robertgraham.com/pubs/sniffing-faq.html |
| 3 | excerpts from HPE’s January 11, 2021 Preliminary Invalidity Contentions for the ’729 Patent |
| 4 | HPE’s February 19, 2021 Disclosure of Extrinsic Evidence for the ’729 Patent |
| 5 | excerpts from ISO/IEC 10589:2002 |
| 6 | excerpts from file history for U.S. Patent No. 9,398,629 (U.S. Pat. App. No. 14/303,637) |

I. INTRODUCTION

Brazos owns, and HPE has infringed, three patents describing methods and systems that allow for more effective and efficient management of enterprise computer networks. These three patents use claim language that is familiar to those skilled in the relevant art, and there is a heavy presumption that the claim terms should be given their plain and ordinary meanings. There are only two exceptions to this familiar rule: when the patentee acted as a lexicographer and defined the term and when there is a clear disavowal of claim scope.

Brazos applies these established principles here, proposing the disputed terms should have their plain and ordinary meanings except where one of the two exceptions clearly applies. HPE, by contrast, offers complicated constructions that are contrary to both the language of the patents and claim construction principles. For example, HPE disregards express definitions provided by the patentees, seeks to import limitations from the specifications, and even invents entirely new definitions, without any basis in the intrinsic evidence, including for commonly understood terms. HPE's proposed constructions invite error. They should be rejected.

II. U.S. PATENT NO. 7,646,729 (CASE NO. 6:20-CV-00729-ADA)

The way in which the various parts of a computer network are interrelated or arranged is referred to as the network topology. Identifying or determining the network topology accurately and efficiently is important because it reduces operational and maintenance costs, and it makes fault detection in the network devices easier. There are challenges to this when networks are spread across numerous areas.

The '729 patent discloses and claims a "Method and Apparatus for Determination of Network Topology" in a network that is "separated into different areas, each area containing a certain number of nodes." '729 patent at 1:13–15. Determining the topology of a particular network "area" is "[t]raditionally ... performed by executing a 'sniffing' operation at each area."

Id. at 1:27–28. Because “[a]ll nodes in one area send link status information only to the nodes in that area,” *id.* at 3:34–35, “as more areas are added to the network,” the complexity of and time required to perform traditionally “sniffing” procedures increases because each area must either have its own “dedicated” sniffer or a shared sniffer must “physically go[] to each and area location and perform[] the required operations,” *id.* at 1:41–46, 1:35–38.

The ’729 patent discloses “a novel method and apparatus for determining a network topology.” *id.* at 1:50–52. This method works by taking advantage of the fact that different “areas” may share nodes with each other. *See, e.g., id.* at 2:63–64 (“Each L1 area has a plurality of L1 nodes **and one L2 node**.” (emphasis added)). Thus, a sniffer can be sequentially “configur[ed] ... as a partition designated node of [each] selected area,” *id.* at 1:63–66, thereby obtaining “the required information for determining topology” of the network as a whole, *id.* at 4:27–33. This avoids the need for “physical installation of sniffers in every outer ring area” and, “[s]ince only one sniffer [] is needed to map the complete topology of the network, fewer resources are needed and the attendant network cost[s] are reduced.” *Id.* at 4:33–38.

A. “a sniffer” (claims 1, 13)

Brazos’s Proposed Construction	HPE’s Proposed Construction
a computer software or hardware that can intercept and log traffic flowing through a network	computer hardware or software, connected to a central location of the network, that can intercept and log traffic flowing through a network without affecting the traffic or network characteristics, and which is not a network node, is not known to or detectable by other network elements, can be removed without directly affecting the network topology, and does not manage any aspect of the network

The patentee acted as a lexicographer and defined “a sniffer” as “a computer software or hardware that can intercept and log traffic flowing through a network.” Ex. 1 at 8 (Oct. 17, 2007 Response Amendment at 8) (“A sniffer is a computer software or computer hardware that can

intercept and log traffic flowing through a network.”), 20 (Apr. 2, 2008¹ Response Amendment at 9) (“As known to a person skilled in the art, a sniffer is a computer software or hardware that can intercept and log traffic flowing through a network.”). This express definition in the file history is consistent with the specification, which explains that “[t]he term sniffing pertains to monitoring and collecting information that the various nodes have about each other and is well known in the art.” ’729 patent at 1:28–30. The specification further refers to an FAQ on the Internet, which it incorporates by reference, for “[a]n example of the principles and procedures for sniffing.” *Id.* at 1:30–35. This FAQ explains that “[a] packet sniffer is a wire-tap device[] that plugs into computer networks and eavesdrops on the network traffic.” Ex. 2 at 1. Brazos’s construction reflects this lexicography and is consistent with the intrinsic evidence.

Despite this clear description, HPE tries to add a number of additional limitations that depart from the patentee’s lexicography and are not supported in the intrinsic evidence. For example, HPE’s attempt to limit a sniffer to being “connected to a central location of the network” is contrary to the intrinsic evidence. Claims 1 and 13 spell out the requirements of the communication network, including “an inner nodal area” and “a plurality of outer nodal areas.” If the patentee had wanted to require the network to include “a central location,” he would have said so in these claims.

HPE’s purported support for a central location limitation comes from one exemplary embodiment. ’729 patent at 1:56–58 (“*in one embodiment*, connecting the sniffer to a central location of the network” (emphasis added)); *see also id.* at 6:8–9. The patent, however, discloses other embodiments without a central location limitation: “[i]n other embodiments, the sniffer

¹ Brazos refers to this as the Apr. 2, 2008 Response Amendment to reflect the actual filing date even though the signature block is dated March 31, 2008.

device may be located in a non-central location.” *Id.* at 6:9–10. HPE’s central location limitation must be rejected because it would import a limitation into the claims from the specification, and it would mean the claims exclude other disclosed embodiments.² Moreover, because claims 2 and 14 specifically require “connecting the sniffer to a central location of the communications network,” the doctrine of claim differentiation further counsels against reading this limitation into claims 1 and 13, which do not have this requirement.³

HPE’s other limitations beyond the lexicography also are contrary to the intrinsic record and claim construction principles. HPE attempts to require that a sniffer: (1) “not [be] a network node,” (2) “not [be] known to or detectable by other network elements,” (3) “be [able to be] removed without directly affecting the network topology,” and (4) “not manage any aspect of the network.” HPE pulls these limitations from statements made by the applicants during prosecution distinguishing the sniffer of the claimed inventions from the “routing manager 110” of a first prior art reference (Krishnamurthy) and network nodes that may be in an “active sniffer state” of a second prior art reference (Kao):

... The routing manager 110 of the Krishnamurthy reference is not a sniffer.

A sniffer is a computer software or computer hardware that can intercept and log traffic flow through a network. The sniffer identifies information of interest within an information stream or bit stream, captures it and eventually decodes its content, while allowing the stream to continue its flow. There is no direct affect [sic] on the stream by the sniffer.

² See *Eko Brands, LLC v. Adrian Rivera Maynez Enters., Inc.*, 946 F.3d 1367, 1373 (Fed. Cir. 2020) (“A claim construction that excludes the preferred embodiment is rarely, if ever, correct and would require highly persuasive evidentiary support.”).

³ *Karlin Tech., Inc. v. Surgical Dynamics, Inc.*, 177 F.3d 968, 971–72 (Fed. Cir. 1999) (“[L]imitations stated in dependent claims are not to be read into the independent claim from which they depend.”); see also *Comark Comm’ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (claim differentiation presumes different claim language means different scope).

In contrast, the routing manager 110 is a management system. ... The routing manager 110 is a ‘centralized module’ that receives the information intended to be received by the routing manager and processes this information in order to manage the entire network. ... In contrast, sniffers manage nothing.

Accordingly, sniffer and routing manager 110 are structurally different elements that accomplish different purposes and do so in a different manner.

Ex. 1 at 8–9 (Oct. 17, 2007 Response Amendment at 8–9);

As known to a person skilled in the art, a sniffer is a computer software or hardware that can intercept and log traffic flowing through a network. The sniffer identifies information of interest within an information stream or bit stream, captures it and eventually decodes its content, while allowing the stream to continue its flow. The sniffer itself or its presence does not directly affect [sic] the stream or the network characteristics.

In contrast, Kao discloses network nodes that may determine ring identifiers. During the active sniffer state, such network nodes merely may receive and interpret information. However, these nodes are part of the network, not depending on the state they are in. Unlike [the] sniffer, removing which does not directly affect the network characteristics, removing one of the nodes alters the network. A network missing a node is a network of a new topology. Accordingly, the network node, even in the active sniffer state, cannot be a sniffer.

id. at 20 (Apr. 2, 2008 Response Amendment at 9).

In distinguishing the Krishnamurthy and Kao references, however, the applicants did not clearly disavow the claim scope HPE now seeks to exclude.⁴ For example, the applicants did not say a network node can never be a sniffer. Rather, they stated (referring, for example, to “such network nodes” and “these nodes”) that *the specific network nodes* disclosed in Kao were not sniffers. Similarly, the applicants did not say a sniffer can never be known or detectable by other

⁴ See *CloudfChange, LLC v. NCR Corp.*, No. 6:19-cv-00513-ADA, 2020 WL 4004810, at *2 (W.D. Tex. July 15, 2020) (“To disavow the full scope of a claim term, the patentee’s statements in the specification or prosecution history must represent ‘a clear disavowal of claim scope.’” (quoting *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1366 (Fed. Cir. 2012))).

elements. To the contrary, the FAQ incorporated by reference into the specification of the '729 patent specifically says, “in practice, it is sometimes possible to detect sniffing programs.” Ex. 2 at 5. Consequently, HPE’s proposed construction is improperly limiting.

B. “link status messages” (claims 1, 13) / “link state messages” (claims 7, 19)

Brazos’s Proposed Construction	HPE’s Proposed Construction
plain and ordinary meaning, not indefinite	indefinite

HPE waived any argument that these terms are indefinite by failing to identify them as such in its preliminary invalidity contentions.⁵ Ex. 3 at 14–17. Even if HPE had not waived this argument, HPE cannot meet its burden to prove by clear and convincing evidence that these terms do not inform a person of ordinary skill in the art “about the scope of the invention with reasonable certainty.”⁶

These are common terms that are described in the specification,⁷ and, indeed, were part of industry standards at the time of the invention. The specification teaches that “links” refer to “connectivity ... between nodes,” ’729 patent at 1:20–21, and that link status messages are a means of sending information about the status of links in an area, *id.* at 3:1–4 (“All nodes in one level send link status information only to the nodes in that level and in that particular area. That is, all nodes and one L1 area send link status messages only to the other nodes in that area.”). The specification also provides specific examples of how to form and transmit link status

⁵ See Court Order Governing Proceedings – Patent Case (requiring “an identification of any limitations the Defendant contends are indefinite” in its preliminary invalidity contentions).

⁶ *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910–11 (2014); *Sonix Tech. Co. v. Publ’ns Int’l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017).

⁷ The patent uses these terms interchangeably. See, e.g., ’729 patent at 3:28 (referring to “link state messages (LSPs)”), 3:33–35 (nodes “send link status information ..., *i.e.*, ... send LSPs”).

messages, referring to the ISO/IEC 10589⁸ standard as providing a network protocol that can be used “[i]n one embodiment of the invention” and stating that in such an embodiment the sniffer may “collect[] information about nodes ... [that] may include link state messages.” *Id.* at 1:66–2:4. The 10589 standard describes how link state messages may be used in accordance with its protocol. *See* Ex. 5 at 5 (using the same “LSP” term that the patent uses to refer to “link state messages” to refer to its “Link State Protocol Data Unit[s]”), 13 (describing that “Link State PDUs are generated as a result of topological changes, and also periodically. They also may be generated indirectly as a result of System Management actions (such as changing one of the routeing metrics for a circuit). ... Link State PDUs are not propagated outside of a domain.”), 65–91 (describing the “Structure and encoding of PDUs”), 75–79 (describing “Level 1 link state PDU[s]”), 79–85 (describing “Level 2 link state PDUs”). Accordingly, a skilled artisan would understand the plain and ordinary meaning of these terms.

C. “inner nodal area” (claims 1, 13)

Brazos’s Proposed Construction	HPE’s Proposed Construction
inner routing subdomain with nodes that send link status messages only to each other	central ring of nodes connected to an element management system

Brazos’s proposed construction is based on the claim language and industry standards at the time of the invention (which are referred to in the specification). Brazos construes “area” as a “routeing subdomain” in accordance with the definition of “area” in the ISO/IEC 10589 standard, which the ’729 patent refers to as a network protocol that can be used “[i]n one embodiment of the invention.” ’729 patent at 2:1–4. The 10589 standard defines an “area” as “[a] routeing subdomain which maintains detailed routeing information about its own internal

⁸ Although the patent refers to “ISO-IEC 10589:2001” (’729 patent at 2:3), there does not appear to be a 2001 version of this standard. Brazos and HPE both understand this to refer to 10589:2002. *See* Ex. 4 at 2.

composition, and also maintains routing information which allows it to reach other routing subdomains.” Ex. 5 at 4.

Brazos’s proposed construction clarifies that an area is comprised of “nodes that send link status messages only to each other.” This construction is based directly on the claim language, which describes “each outer nodal area comprising a plurality of nodes, each of the plurality of nodes configured to send link status messages only to other nodes of the outer nodal area.” The claims include this description with respect to nodes of the outer nodal areas, but the specification teaches that *all* areas have the feature of being comprised of nodes that send link status messages only to each other. Specifically, the specification of the ’729 patent describes “a network in accordance with an embodiment of the subject invention,” ’729 patent at 2:30–31 (brief description of FIG. 1), that “comprises a plurality (illustratively 5) of L1 areas and illustratively, one L2 area,”⁹ in which “[a]ll nodes in one level send link status information only to the nodes in that level and in that particular area[;] [t]hat is, all nodes [in] one L1 area send link status messages only to the other nodes in that area [and] L2 nodes in turn exchange link state messages only for the L2 area,” *id.* at 3:1–7. Brazos’s proposed construction respects this description, clarifying that both inner and outer nodal areas are comprised of nodes that send link status messages only to each other, which is consistent with the express language in the claims and the teaching of the specification.

HPE’s construction, by contrast, is contrary to the intrinsic record. For example, HPE construes “inner” to mean “central,” but the patent never describes “inner nodal areas” as being “central.” Rather, the patent states that the invention may include “means for detecting topology

⁹ The L1 areas correspond to “outer ring areas,” *see* ’729 patent at 3:15–16, and the L2 areas correspond to “inner ring area[s],” *see id.* at 3:12–13.

forming information about all nodes in the inner and outer nodal areas *from* a central location in the communications network.” ’729 patent at 2:19–22 (emphasis added). If an inner nodal area was necessarily “central,” the patent would not describe detecting information about the nodes of such an area *from* a central location.

HPE’s limitation that the inner nodal area be “connected to an element management system” is also contrary to the intrinsic record and claim construction principles. The claims do not describe an “element management system” (“EMS”) as a necessary component of the claimed system. Although the specification describes that “[i]n one embodiment of the invention, the [claimed] sniffer is a specific component of the EMS 110,” it also describes that “[i]n a second embodiment, the sniffer 112 is a stand-alone device that is independently connected to the network 100.” ’729 patent at 3:53–57. Thus, because the claims require only a sniffer, which may be independent of any element management system, it is wrong to read in a limitation requiring an otherwise unclaimed element.¹⁰

D. “outer nodal area[s]” (claims 1, 13)

Brazos’s Proposed Construction	HPE’s Proposed Construction
outer routing subdomain with nodes that send link status messages only to each other	ring of nodes that shares only one node with said inner nodal area, and does not share any nodes with any other outer ring

This is the flip side of the previous term, and Brazos’s construction is correct for the same reasons: the claim language and the industry standards referenced in the specification confirm this definition. HPE’s proposed construction is contrary to the intrinsic record. The ’729 patent does not teach that an outer nodal ring may only share a single node with an inner nodal area, or that it may not share any nodes with other outer nodal areas. Although Figure 1

¹⁰ See *Philips v. AWH Corp.*, 415 F.3d 1303, 1319–20 (Fed. Cir. 2005) (*en banc*) (“one of the cardinal sins of patent law [is] reading a limitation from the written description into the claims”).

depicts a network in which the inner and outer nodal areas have this characteristic, this figure is only “an embodiment of the subject invention.” ’729 patent at 2:30–31. It would be improper to import a limitation into the claims based on a single embodiment.

HPE’s proposed construction is also inconsistent with the applicants’ statement during prosecution that each area of the claimed invention “contains *at least some* nodes that another selected area does not contain.” Ex. 1 at 20 (Apr. 2, 2008 Response Amendment at 9) (emphasis added). This statement implies that areas may share multiple nodes as long each contains at least one node that another selected area does not contain. HPE’s proposed construction runs contrary to this and should be rejected.

E. “configuring the sniffer as a partition designated inner nodal-area node of the [first / second / remaining] outer nodal area” (claims 1, 13)

Brazos’s Proposed Construction	HPE’s Proposed Construction
plain and ordinary meaning	employing the Repairs of Partition Areas feature of ISO/IEC 10589:2001 to create a virtual outer ring adjacency to receive link state messages from all nodes in the [first / second / remaining] outer nodal area

HPE’s proposed construction improperly limits this term based on one particular embodiment in the specification. The specification describes its Figure 1 as “depict[ing] a network 100 ... operating in accordance with *an embodiment* of the subject invention,” and its Figure 2 as “depict[ing] a series of method steps for determining a network topology in accordance with *an embodiment* of the subject invention.” *Id.* at 2:60–61, 2:34–36 (emphasis added). In connection with these figures, the specification explains that “[t]he central sniffer 112 exploits the Repair of Partition Areas feature as explained in ISO/IEC 10589:2001,” *id.* at 3:66–67, and “[t]he functionality of the sniffer 112 as an inner node ring node 106 is accomplished by configuring the sniffer as a partition designated inner ring node in accordance with the repair of partition feature of ISO/IEC 10589:2001,” *id.* at 4:48–51. The specification never states that the

repair of partition areas feature of ISO/IEC 10589 standard is the only way to configure a sniffer as a partition designated inner nodal-area node of an outer nodal area, and the applicants never disclaimed any other means of configuring the sniffer. Rather, the applicants specifically contemplated that “those skill[ed] in the art can readily devise many other varied embodiments that still incorporate these teachings.” *Id.* at 6:19–21. The heavy presumption of ordinary meaning applies here. It would be improper to limit this term to the scope of one exemplary embodiment, or to ascribe any meaning other than its plain and ordinary meaning.¹¹

HPE’s proposed construction also violates the principle of claim differentiation. Independent claims 1 and 13 specify that the purpose of “configuring the sniffer as a partition designated inner nodal-area node of the second outer nodal area” is “to collect information from nodes of a second outer nodal area,” without reciting any restrictions on the type of network protocol the collected information is based upon. By comparison, dependent claims 8 and 20 require that the “collected information [be] based upon an existing network protocol,” and dependent claims 9 and 21 require that “the existing network protocol [be] part of ISO-IEC 10589:2001.” These dependent claims, therefore, contemplate that the independent claims cover the use of network protocols other than the ISO/IEC 10589 standard, including network protocols not already defined. Limiting the scope of claims 1 and 13 to require the use of a feature of the ISO/IEC 10589 standard would render at least dependent claims 9 and 21

¹¹ *Philips*, 415 F.3d at 1323 (“we have expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment”).

redundant because it would no longer be necessary for those terms to specify that the collected information be based on the ISO/IEC 10589 standard.¹²

III. U.S. PATENT NO. 8,462,774 (CASE NO. 6:20-CV-00730-ADA)

“One of the key challenges faced by data networks is the need for network resiliency, *i.e.*, the ability to maintain high availability despite eventual component failures, link failures, or the like” ’774 patent at 2:3–6. Before the ’774 patent, “[o]ne known solution, the spanning tree protocol (STP)[,] [was] commonly used to detect failures and divert traffic to alternate paths when failures occur in Ethernet networks.” *Id.* at 2:31–33. This solution, however, had several limitations. For instance, even though the STP protocol “relies on multiple physical paths between switches,” “only one path [is] active at any one time, [with] the other path being placed in a blocking mode (defining an ‘active/passive’ paradigm).” *Id.* at 2:34–36. Thus, “not all links are actively forwarding traffic at the same time.” *Id.* at 2:44–45.

The ’774 patent addresses this problem by providing “a resilient network [] with multi-chassis link aggregation that provides an active/active paradigm (*i.e.*, all links actively forwarding traffic at the same time) that more fully utilizes the capacity of the network nodes.” *Id.* at 3:45–50. In this system, “several physical links” are bundled together into “a link aggregation group (LAG) ... to form a single logical channel.” *Id.* at 4:8–10. This “offers an inexpensive way to transfer more data than any one single port or link can deliver alone.” *Id.* at 4:13–15. “To provide increased resiliency and remove a single point of failure, “a LAG [can be] split across two devices ... [, which] is referred to ... as a “multi-chassis link aggregation group (MC-LAG).” ’774 patent at 4:20–24.

¹² See *Comark Comm’ns*, 156 F.3d at 1187 (“To the extent that the absence of such difference in meaning and scope would make a claim superfluous, the doctrine of claim differentiation states the presumption that the difference between claims is significant.”).

A. “assigning the MC-LAG to a multi-chassis link aggregate group virtual local area network (MC-LAG VLAN)” (claim 12)

Brazos’s Proposed Construction	HPE’s Proposed Construction
plain and ordinary meaning	allocating each logical port of the MC-LAG corresponding to a virtual IP interface on the local and remote aggregation switches to the same VLAN

The words “MC-LAG” and “multi-chassis link aggregate group virtual local area network (MC-LAG VLAN)” are understood in the field and within the context of the ’774 patent. HPE agrees, as it repeats these terms verbatim in its proposed construction. Thus, these terms do need further construction.

The only other words of this term—“assigning ... to”—are non-technical, commonly understood words that have their plain and ordinary meaning. These words have “no facial ambiguity or obscurity.”¹³ Thus, no further construction is required.¹⁴

HPE proposes, improperly, to substitute the word “allocating” for the word “assigning.”¹⁵ The claims of the ’774 patent use these two words separately, however. *See* claim 12 (“assigning the MC-LAG” and “allocating a virtual Internet Protocol (IP) interface”). If the applicants meant to use the word “allocating” here, they would have done so as they did elsewhere in the claims. HPE’s construction ignores the different uses of these terms in the claims, and thus is erroneous.

¹³ *Ancora Techs., Inc. v. Apple, Inc.*, 744 F.3d 732, 738 (Fed. Cir. 2014); *Info-Hold, Inc. v. Applied Media Techs. Corp.*, 783 F.3d 1262, 1267 (Fed. Cir. 2015).

¹⁴ *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1206–07 (Fed. Cir. 2010); *ActiveVideo Networks, Inc. v. Verizon Commc’ns, Inc.*, 694 F.3d 1312, 1326 (Fed. Cir. 2012).

¹⁵ *See K-2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1364 (Fed. Cir. 1999) (“Courts do not rewrite claims; instead, we give effect to the terms chosen by the patentee.”); *Pisomy v. Commando Constr., Inc.*, No. 6:17-cv-00055-ADA, 2019 WL 928406, at *6 (W.D. Tex. Jan. 23, 2019) (“[T]he Court finds such a substitution unnecessary because the words chosen by the scrivener ... are more than adequate to be understood by one who is skilled in the art.”).

IV. U.S. PATENT NO. 9,398,629 (CASE NO. 6:20-CV-00783-ADA)

The '629 patent describes and claims a “System and Method for a Distributed Wireless Network.” This system uses multiple “wireless local area network (WLAN)” controllers that operate together in a “mobility domain,” “allowing wireless devices [(such as a WiFi equipped laptop or cell phone)] to seamlessly roam between the WLAN controllers in the mobility domain.” '629 patent at 3:66–4:4.

Before the '629 patent, “there [was] no ... mechanism for dynamically discover[ing] WLAN controllers that are distributed across layer 2 (L2) and layer 3 (L3) network boundaries,” *id.* at 4:15–18, such as might exist in different buildings of a corporate or college campus. The patent solves this problem and enables the “inclu[sion] [of] WLAN controllers in a same mobility domain located in a plurality of layer 2 (L2) and/or layer 3 (L3) networks,” *id.* at 4:26–28, by providing “[a] WLAN controller discovery process ... that allows WLAN discovery between WLAN controllers in a mobility domain having network connectivity that are spread across one or more L2 and/or L3 network boundaries.” *Id.* at 4:28–32. This includes configuring “at least one WLAN controller ... as a seed controller,” *id.* at 6:19–20. Then, when additional WLAN controllers are deployed in the network, they can be “initially configured with the IP addresses for the one or more seed [] controllers,” which they can use to “begin the discovery process.” *Id.* at 6:53–58. This can be done by “transmit[ting] a register request message to the selected seed WLAN controller,” which “verifies that the mobility domain of the newly deployed WLAN controller [] matches its own mobility domain[,] ... accepts the registration ...[,] and transmits a register acknowledgment (Ack) message of success ... [that] includes information for the other WLAN controllers 105 registered in the domain.” *Id.* at 7:29–49.

A. Agreed Constructions of “register request” and “register acknowledgment” (claims 1, 8)

Term	Agreed Construction
register request	message requesting registration
register acknowledgment	message acknowledging registration

B. “seed WLAN controller” (claims 1, 8)

Brazos’s Proposed Construction	HPE’s Proposed Construction
plain and ordinary meaning	a WLAN controller that stores information for all WLAN controllers registered in the mobility domain

The claims and specification describe the plain and ordinary meaning of a “WLAN controller” as serving as a “seed” in the claimed invention. The claims describe the WLAN controllers as a seed because they accept registrations from other WLAN controllers that are added to the same mobility domain and provide (or seed) those WLAN controllers with “information for other WLAN controllers in the mobility domain.” *See* ’629 patent at 16:19–31 (claim 1), 17:1–16 (claim 8). The specification similarly describes that “[f]or example, referring to FIG. 1, WLAN controllers 105a and 105b are statically configured as seed controllers and, *e.g.*, are assigned static IP addresses.” *Id.* at 6:23–25. When a new “WLAN controller 105d is deployed ... [it] needs to discover and synchronize wireless device information with the other WLAN controllers 105 in mobility domain 135.” *Id.* at 6:43–52. To do so, “[i]n an embodiment, WLAN controller 105d is initially configured with the IP addresses for the one or more seed WLAN controllers 105a and 105b at its deployment [which it can use to] begin the discovery process.” *Id.* at 6:53–58. Thus, according to both the claims and specification, the seed WLAN controllers seed information to other WLAN controllers that are added to the same mobility domain by being known or discoverable to such other WLAN controllers so the other WLAN controllers can register and receive information for other WLAN controllers in the

domain. The claims detail the process by which this seeding happens, *id.* at 16:19–31 (claim 1), 17:1–16 (claim 8), so no further construction is required.

HPE’s limitation, that each seed WLAN controller must store information for ***all*** other WLAN controllers in the mobility domain, is contrary to the intrinsic record. The claims show that when a new WLAN controller registers in the mobility domain, it “receive[s] information *for other* WLAN controllers in the mobility domain from the at least one WLAN controller.” *Id.* at 16:29–31 (claim 1), 17:3–5 (claim 8). If the seed WLAN controllers were required to store information of all WLAN controllers in the mobility domain, the claims could have instead described a new WLAN controller receiving information *for all other* WLAN controllers. Because the claims do not, they leave open the possibility that the seed WLAN controllers store information for fewer than all of the WLAN controllers in the mobility domain.

The specification and claims describe how the invention works without any requirement that each seed WLAN controllers store information for all other WLAN controllers. For example, they say there may be “at least one seed WLAN controller.” *Id.* at 6:19–20, 16:19 (claim 1), 16:66–67 (claim 8). Where a mobility domain includes multiple seed WLAN controllers, each storing information for a different, incomplete subset of other WLAN controllers in the domain, a new WLAN controller may receive information for some other WLAN controllers from one seed WLAN controller and information for the remaining other WLAN controllers from another seed WLAN controller. HPE’s proposed construction is therefore incorrect, because it is contrary to the intrinsic record.

- C. **“a processing module operable to:
determine an address of at least one seed WLAN controller in the mobility domain;
register with the at least one seed WLAN controller in the mobility domain by:
transmitting a register request including a layer 3 address of the WLAN controller to the at least one seed WLAN controller with a mobility domain identifier of the mobility domain; and
receiving a register acknowledgement from the at least one seed WLAN controller when the mobility domain identifier matches a mobility domain identifier of the at least one seed WLAN controller; and
receive information for other WLAN controllers in the mobility domain from the at least one seed WLAN controller” (claim 1)**

Brazos’s Position	HPE’s Proposed Construction
plain and ordinary meaning, not subject to 35 U.S.C. § 112(f), not indefinite	<p>Means plus function.</p> <p>The function is “determine an address of at least one seed WLAN controller in the mobility domain; register with the at least one seed WLAN controller in the mobility domain by: transmitting a register request including a layer 3 address of the WLAN controller to the at least one seed WLAN controller with a mobility domain identifier of the mobility domain; and receiving a register acknowledgement from the at least one seed WLAN controller when the mobility domain identifier matches a mobility domain identifier of the at least one seed WLAN controller; and receive information for other WLAN controllers in the mobility domain from the at least one seed WLAN controller.”</p> <p>The term is indefinite for insufficient disclosure of structure corresponding to the function.</p>

The term “processing module ...” is a common, readily understood term in the field and should be given its plain and ordinary meaning. This term is not governed by 35 U.S.C. § 112(f) because it does not contain the words “means for,” because the applicants specifically stated during prosecution that it was *not* a means-plus-function term, and because the claim language recites sufficient structure.

As an initial matter, there is a rebuttable presumption that 35 U.S.C. § 112(f) does not apply here because the claim term does not contain the words “means for.”¹⁶ That presumption can be overcome only “if the challenger demonstrates that the claim term fails to ‘recite sufficiently definite structure’ or else recites ‘function without reciting sufficient structure for performing that function.’”¹⁷ This familiar presumption is especially strong here because the applicants specifically disclaimed reliance on § 112(f) for this term during prosecution, stating that it is “not [a] generic placeholder that invoke[s] 35 U.S.C. § 112(f) because, in part, “[t]he specification describes detailed embodiments of ... processing modules 645.” Ex. 6 at 16 (Feb. 8, 2016 Response to Non-Final Office Action at 9). The applicants’ specific decision not to invoke § 112(f) should be respected.¹⁸

The term “processing module ...” refers to structure,¹⁹ as shown by exemplary embodiments in the specification describing that “WLAN controller 150 includes one or more

¹⁶ See *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347–49 (Fed. Cir. 2015); *Diebold Nixdorf, Inc. v. Int’l Trade Comm’n*, 899 F.3d 1291, 1298 (Fed. Cir. 2018).

¹⁷ *Diebold Nixdorf*, 899 F.3d at 1298.

¹⁸ See *CellNet Data Sys., Inc. v. Itron, Inc.*, 17 F. Supp. 2d 1100, 1108 (N.D. Cal. 1998) (“the prosecution history can be helpful in the determination of whether the patentees intended to assert a means-plus-function claim” and finding term not to be means-plus function where “[t]he prosecution history ... does not contain any evidence that suggest the patentees intended to assert a means-plus-function limitation”).

¹⁹ *Samsung Elecs. Am., Inc. v. Prisua Eng’g Corp.*, 948 F.3d 1342, 1354 (Fed. Cir. 2020) (assessing whether person of ordinary skill in the art would understand claim language to refer to structure “in light of the presumption that flows from the drafter’s choice not to employ the word ‘means.’”); *Tek Global v. Sealant Sys. Int’l, Inc.*, 920 F.3d 777, 785 (Fed. Cir. 2019) (“To determine whether the claim limitation at issue connotes sufficiently definite structure to a person of ordinary skill in the art, [courts] look first to intrinsic evidence, and then, if necessary, to the extrinsic evidence.”); *Skky, Inc. v. MindGeek, s.a.r.l.*, 859 F.3d 1014, 1019 (Fed. Cir. 2017) (“To determine whether a claim recites sufficient structure, ‘it is sufficient if the claim term is used in common parlance or by persons of skill in the pertinent art to designate structure, even if the term covers a broad class of structures and even if the term identifies the structures by their function.’”).

processing modules 645 operable to perform the functions described herein with respect to the WLAN controllers 105” and that the “[o]ne or more processing modules 645 may also implement a logical link control (LLC) module 620, media access control (MAC) module 625.” ’629 patent at 13:22–25. The specification specifically describes how it uses the term “module” to refer to structural elements:

The term “module” is used in the description of one or more of the embodiments of elements herein. A module includes hardware, such as one or more processing devices and/or one or more non-transitory memory devices operable to perform one or more functions as may be described herein. A module may operate independently and/or in conjunction with other modules and may utilize the processing device and/or memory of other modules and/or operations instructions of other modules. As also used herein, a module may contain one or more sub-modules, each of which may be one or more modules. A processing device includes a microprocessor, micro-controller, digital signal processor, microcomputer, central processing unit, field programmable gate array, programmable logic device, state machine, logic circuitry, analog circuitry, digital circuitry, and/or any device that manipulates signals (analog and/or digital) based on hard coding of the circuitry and/or operational instructions.

Id. at 15:6–22. Accordingly, as the specification shows, the “processing module” in this term is a processing device within a WLAN controller.²⁰

²⁰ Numerous cases have held terms relating to processors were not means-plus-function limitations. *See e.g., Samsung Elecs. Am.*, 948 F.3d at 1354 (holding that a ‘digital processing unit’ is not subject to § 112(f) because the term “clearly serves as a stand-in for a ‘general purpose computer’ or a ‘central processing unit,’ each of which would be understood as a reference to structure”); *LG Elecs., Inc. v. Bizcom Elecs., Inc.*, 453 F.3d 1364, 1372, *cert. granted*, 128 S. Ct. 28 (2007) (Fed. Cir. 2006) (ruling that term “control unit” in a claim limitation reciting “a control unit for controlling the communication unit, wherein the control unit comprises a [central processing unit (‘CPU’)] and a partitioned memory system” was not a means-plus-function limitation), *rev’d on other grounds sub nom, Quanta Computer, Inc. v. LG Elecs., Inc.*, 128 S. Ct. 2109 (2008); *Clear Imaging Res., LLC v. Samsung Elecs. Co.*, No. 2:19-cv-00326-JRG, 2020 WL 6384731, at *8–9 (E.D. Tex. Oct. 30, 2020) (“the presumption against applying § 112(f) to the ‘processor ... configured to ...’ terms stands”); *Realtime Data, LLC v. Rackspace US, Inc.*, No. 6:16-cv-00961-RWS-JDL, 2017 WL 2590195, at *15–17 (E.D. Tex. June 14, 2017) (term “processor” in a claim reciting that the processor “was configured” to perform certain operations was not a means-plus-function limitation); *Cellular Commc’ns Equip.*

D. “register[ing]” (claims 1, 8)

Brazos’s Proposed Construction	HPE’s Proposed Construction
plain and ordinary meaning	“sending a register message and receiving a register acknowledgment message”

The term “register[ing]” is readily understandable and requires no construction; neither the lexicography nor disclaimer exception applies. Accordingly, the term should be given its full scope, not narrowed to require “sending a register message and receiving a register acknowledgment message.”

HPE’s proposed narrow construction is contrary to the claims. The applicants knew how to use the terms “register[ing],” “register request,” and “register acknowledgment,”²¹ as is shown by their separate use in the claims of the ’629 patent. Thus, where the claims simply state “register[ing],” they should not be read to require sending a register message and receiving a register acknowledgment message unless the claims also specifically require such steps.

HPE’s proposed construction would also render multiple other limitations of at least claim 1 of the ’629 patent redundant.²² Claim 1 specifically recites “a processing module operable to ... register with the at least one seed WLAN controller in the mobility domain by: transmitting a register request ...; and receiving a register acknowledgment.” If the term

LLC v. AT&T, Inc., No. 2:15-cv-576-RWS-RSP, 2016 WL 7364266, at *15 (E.D. Tex. Dec. 19, 2016) (“processor configured to” not means-plus-function limitation and given its plain meaning—“Here, ‘processor’ is not a ‘nonce’ term, but rather connotes a class of structures”).

²¹ The parties have agreed that “register request” and “register acknowledgment” may be construed as “message requesting registration” and “message acknowledging registration,” respectively. *See* § IV.A *supra*.

²² *See Power Mosfet Techs., L.L.C. v. Siemens AG*, 378 F.3d 1396, 1410 (Fed. Cir. 2004) (“interpretations that render some portion of the claim language superfluous are disfavored”).

“register[ing]” had the meaning HPE ascribes to it, these additional limitations of claim 1 would be unnecessary.²³

HPE’s proposed construction is also contrary to the specification, which specifically contemplates that registering can happen without the receipt of a register acknowledgment message. The specification describes that a “newly deployed WLAN controller 105d [can] transmit[] a register request message to [a] selected seed WLAN controller” and “the seed WLAN controller 105a accepts the registration of the newly deployed WLAN controller 105a and transmits a register acknowledgment (Ack) message of success.” ’629 patent at 7:29–31, 7:39–42. In this description, the registration is already successfully completed before the sending (let alone receipt on the other end) of the register acknowledgment message. Thus, “registering” does not require the sending of a register acknowledgment request.

E. “receive information for other WLAN controllers in the mobility domain” / “receiving information for other WLAN controllers in the mobility domain” (claims 1, 8)

Brazos’s Proposed Construction	HPE’s Proposed Construction
plain and ordinary meaning	receive information including an IP address for other [WLAN] controllers ²⁴ in the mobility domain / receiving information including an IP address for other WLAN controllers in the mobility domain

²³ By contrast, claim 15, which is not asserted in this case, recites “at least one processing module operable to: register with the at least one seed WLAN controller in the mobility domain,” without further specifying that the registering is done by sending a register request or receiving a register acknowledgment. This further shows that when the applicants wanted to require the sending of a register request and the receiving of a register acknowledgement, they specifically stated so in the claims.

²⁴ HPE’s identification of claim terms and proposed constructions recite “other controllers” in both the term and construction. However, claim 1, where this term appears, recites “other **WLAN** controllers.” ’629 patent at 16:29 (emphasis added). Brazos therefore understands this to be a typo in HPE’s claim term identification and proposed construction, and uses “other WLAN controllers” in accordance with the language of the claim.

These terms use words known in the art that do not require any construction. HPE agrees, as it includes each of the words verbatim in its proposed construction. HPE's proposed construction includes an additional requirement that the information received "includ[es] an IP address," which is not supported by any lexicography or disclaimer and should be rejected.

Although the '629 patent discloses a preferred embodiment in which the "WLAN controller information of the other WLAN controllers [] includes at least the IP address of the WLAN controllers," '629 patent at 7:45–47, the applicants never defined such a requirement to apply to *all* embodiments of the invention, nor disclaimed any embodiments in which the WLAN controller information does not include an IP address for other WLAN controllers. To the contrary, the specification discloses that, in addition to the IP address, the information of the newly registered WLAN controller "may also include other information, such as the controller group information and MAC address of WLAN controller." *Id.* at 7:47–49. HPE's construction would improperly import a limitation from the specification, and it would exclude other potential embodiments in which only such other information is received.

HPE's construction is also contrary to the doctrine of claim differentiation.²⁵ Independent claims 1 and 8 describe the receipt of "information for other WLAN controllers in the mobility domain" without limiting the type of information that must be received. By comparison, dependent claims 2 and 9 describe that "the information for other WLAN controllers in the mobility domain ... includes at least an IP address for the other WLAN controllers in the mobility domain." If these terms had the meaning ascribed to them by HPE, claims 2 and 9 would be redundant to claims 1 and 8.

²⁵ *Comark Comm'ns*, 156 F.3d at 1187 (Fed. Cir.1998) ("To the extent that the absence of such difference in meaning and scope would make a claim superfluous, the doctrine of claim differentiation states the presumption that the difference between claims is significant.").

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